

CLAIMS

1. An easy to open plastic film bag comprising a front bag wall and a rear bag wall joined to one another along bottom edges thereof and along opposed mutually substantially parallel lateral edges thereof by a first and a second inwardly directed lateral gusset extending along a respective one of said lateral edges to define a bag having a top opening defined by top edges of said front and rear walls, said front and rear walls being laterally displaced relative to one another such that the lateral edge of said front wall constituting the boundary between said front bag wall and said first and second lateral gusset, respectively, extends at a first and a second distance, respectively, from the corresponding lateral edge of said rear wall constituting the boundary between said rear bag wall and said first and second lateral gusset, respectively, thereby defining a first strip-like lateral zone with a width equal to said first distance and constituted by a portion of said first gusset and a portion of said front wall, and a second strip-like lateral zone with a width equal to said second distance and constituted by a portion of said second gusset and a portion of said rear wall.
2. A bag according to claim 1, wherein said first and second distances are substantially the same size such that the widths of said first and second lateral zones are substantially the same.
3. A bag according to claims 1 or 2, wherein said bag is a bag with two handles, for instance a T-shirt bag, the handles being integral with said walls and said gussets and extending upwards at the opposed ends of said top opening and inwards from said lateral edges, the width of each of said handles measured from the respective lateral edge being larger than the respective one of said first and second distances such that said first and second lateral zones constitute a lateral portion of the respective handle.
4. A bag according any of the preceding claims, wherein said first and/or second distance is preferably less than 50mm, more preferably less than 45mm, even more preferably less than 40mm, even more preferably less than 35mm, even more preferably less than 30mm, even more preferably less than 25mm, even more preferably less than 20mm, even more preferably less than 18mm, even more preferably less than 16mm, and most preferably less than 14mm.

5. A bag according to any of the preceding claims, wherein indicia are applied, for instance by printing, to the outer surface of said front wall and/or said rear wall for indicating where and/or how said strip-like lateral zones are to be gripped and manipulated.

5 6. A bag according to claim 5, wherein said indicia comprise printing applied within an area of at least one of said lateral zones.

7. A bag according to claim 5 or 6, wherein said indicia comprise an arrow pointing towards a certain area of at least one of said lateral zones.

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8. A bag according to any of the preceding claims, wherein an aperture is provided extending through at least one of said front and rear walls and each gusset, said aperture extending inwards from a point located between the innermost and the outermost of the pair of lateral edges of the front and rear walls corresponding to said gusset, preferably to a
15 point located inwards of the innermost of said pair of lateral edges.

9. A bag according to claim 8, wherein said aperture is sufficiently large to permit insertion of a finger of a hand therethrough.

20 10. An easy to open plastic film bag comprising a front bag wall and a rear bag wall joined to one another along bottom edges thereof and along opposed mutually substantially parallel lateral edges thereof by a first and a second inwardly directed lateral gusset extending along a respective one of said lateral edges to define a bag having a top opening defined by top edges of said front and rear walls, the bag furthermore being provided with
25 two handles integral with said walls and said gussets and extending upwards at the opposed ends of said top opening and inwards from said lateral edges, said front and rear walls being laterally displaced relative to one another such that the lateral edge of said front wall constituting the boundary between said front bag wall and said first and second lateral gusset, respectively, extends at a first and a second distance, respectively, from the
30 corresponding lateral edge of said rear wall constituting the boundary between said rear bag wall and said first and second lateral gusset, respectively, thereby defining a first strip-like lateral zone with a width equal to said first distance and constituted by a portion of said first gusset and a portion of said front wall, and a second strip-like lateral zone with a width equal to said second distance and constituted by a portion of said second gusset and a
35 portion of said rear wall, the width of each of said handles measured from the respective

lateral edge being less than the respective one of said first and second distances such that said first and second lateral zones constitute a lateral portion of the respective handle.

11. A bag according to claim 10, wherein said first and second distances are substantially the same size such that the widths of said first and second lateral zones are substantially the same.

12. A bag according to claim 10 or 11, wherein said first and/or second distance is preferably less than 50mm, more preferably less than 45mm, even more preferably less than 40mm, even more preferably less than 35mm, even more preferably less than 30mm, even more preferably less than 25mm, even more preferably less than 20mm, even more preferably less than 18mm, even more preferably less than 16mm, and most preferably less than 14mm.

13. A bag according to any of the claims 10-12, wherein indicia are applied, for instance by printing, to the outer surface of said front wall and/or said rear wall for indicating where and/or how said strip-like lateral zones are to be gripped and manipulated.

14. A bag according to claim 13, wherein said indicia comprise printing applied within an area of at least one of said lateral zones.

15. A bag according to claim 13 or 14, wherein said indicia comprise an arrow pointing towards a certain area of at least one of said lateral zones.

16. A bag according to any of the claims 10-15, wherein an aperture is provided extending through at least one of said front and rear walls and each gusset, said aperture extending inwards from a point located between the innermost and the outermost of the pair of lateral edges of the front and rear walls corresponding to said gusset, preferably to a point located inwards of the innermost of said pair of lateral edges.

17. A bag according to claim 16, wherein said aperture is sufficiently large to permit insertion of a finger of a hand therethrough.

18. A method of manufacturing easy to open plastic film bags, each comprising a front bag wall and a rear bag wall joined to one another along bottom edges thereof and along opposed mutually substantially parallel lateral edges thereof by a first and a second

inwardly directed lateral gusset extending along a respective one of said lateral edges to define a bag having a top opening defined by top edges of said front and rear walls, said front and rear walls being laterally displaced relative to one another such that the lateral edge of said front wall constituting the boundary between said front bag wall and said first
 5 and second lateral gusset, respectively, extends at a first and a second distance, respectively, from the corresponding lateral edge of said rear wall constituting the boundary between said rear bag wall and said first and second lateral gusset, respectively, thereby defining a first strip-like lateral zone with a width equal to said first distance and constituted by a portion of said first gusset and a portion of said front wall, and a second strip-like
 10 lateral zone with a width equal to said second distance and constituted by a portion of said second gusset and a portion of said rear wall, the method comprising the following steps:

- providing a continuous tube of a plastic film material,
- 15 - feeding said tube to a flattening and gusseting device in the direction of the tube axis,
- flattening said tube by pressing the sides thereof against each other in the direction of a first diameter of said tube substantially perpendicular to said axis,
- 20 - forming said first and second lateral gusset, preferably during said flattening step, by applying a first and a second pressing means, respectively, of said device to said tube for pressing generally opposed, but mutually offset, regions of the film material of said tube inwards in a direction parallel to a second diameter of said tube substantially perpendicular to said first diameter,
- 25 the first and second pressing means being displaced a first distance and a second distance, respectively, with respect to said second diameter in mutually opposed directions parallel to said first diameter such that the widths of the two inwardly directed, mutually joined panels of each lateral gusset formed thereby are different such that said first and second lateral
 30 zones are formed.

19. A method according to claim 18, wherein said first distance and said second distance are substantially the same.

35 20. An easy to open plastic film bag manufactured by means of a method according to claim 18 or 19.

21. A flattening and gusseting device for manufacturing easy to open plastic film bags each comprising a front bag wall and a rear bag wall joined to one another along bottom edges thereof and along opposed mutually substantially parallel lateral edges thereof by a first and a second inwardly directed lateral gusset extending along a respective one of said lateral
5 edges to define a bag having a top opening defined by top edges of said front and rear walls, said front and rear walls being laterally displaced relative to one another such that the lateral edge of said front wall constituting the boundary between said front bag wall and said first and second lateral gusset, respectively, extends at a first and a second distance, respectively, from the corresponding lateral edge of said rear wall constituting the boundary
10 between said rear bag wall and said first and second lateral gusset, respectively, thereby defining a first strip-like lateral zone with a width equal to said first distance and constituted by a portion of said first gusset and a portion of said front wall, and a second strip-like lateral zone with a width equal to said second distance and constituted by a portion of said second gusset and a portion of said rear wall, said device comprising

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- a driven roller for pulling a flattened extruded tube of plastic film material through said device,
- two converging arrays of flattening rollers arranged and adapted for flattening said tube when said tube is pulled between said arrays in the converging direction thereof,
- 20 - two generally opposed pressing means for pressing generally opposed regions of said tube inwards when said tube is pulled between said pressing means,

said pressing means being arranged displaceable both in a first radial direction towards the axis of said tube and a second direction transverse to, preferably at right angles to, said first
25 direction such that said generally opposed regions may be mutually offset with respect to said axis to form said first and second lateral zones.